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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/781,647 | 02/20/2004 | Gerold Knapp | 004501-760 | 3467 |
| 21839 | 7590 | 06/30/2005 | EXAMINER | |
| BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404 | | | PATEL, RAJNIKANT B | |
| | | | ART UNIT / | PAPER NUMBER |
| | | | 2838 | |

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,647

Applicant(s)

KNAPP ET AL

Examiner

Rajnikant B. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/20/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garces et al. (U.S. Patent # 5,450,306) in combination with Tanaka Yoshiyuki (JP 2001057782).

Garces et al. discloses claimed invention a converter circuit (figure 2-3), including first and second energy storage element and second energy storage element connected in series (figure 2, item 6 and 8). However Garces et al. does not disclose the utilization of the technique for a fuse connected in series with first and second energy storage elements. Tanaka Yoshiyuki teaches the utilization of similar technique for a fuse connected in series with first and second energy storage elements. It would have been obvious one having an ordinary skill in the art at the time the invention made to modify Graces et al.'s converter circuit by utilizing the technique taught by Tanaka Yoshiyuki for the purpose of short-circuit protection.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garces et al. (U.S. Patent # 5,450,306) in combination with Tanaka Yoshiyuki (JP 2001057782) and further in combination with Deam et al. (U.S. Patent # 5,365,424) and. Shepard Jr. (U.S. Patent # 4,779,034)

Garces et al. in combination with Tanaka Yoshiyuki disclose the claimed invention as explained in the claims 1-2, above, except the utilization of the technique for two or more capacitor are connected in parallel and series combination, and a first drivable short-circuit element. Deam et al. teaches the utilization of the similar technique for series and parallel connection (figure 4, item C1-C6) and Shepard Jr. teaches the utilization similar technique for a first drivable short-circuit element (column 1, line 30-40). . It would have been obvious one having an ordinary skill in the art at the time the invention made to modify Graces et al.'s converter circuit by utilizing the technique taught by Tanaka Yoshiyuki for the purpose of short-circuit protection.

In regards to claim 6, Garces et al. in combination with Tanaka Yoshiyuki and further in combination with Bando et al. (U.S. patent # 5,099,409), discloses claimed invention (figure 1, item 4).

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garces et al. (U.S. Patent # 5,450,306) in combination with Tanaka Yoshiyuki (JP 2001057782) and further in combination with Walker (U.S. Patent # 5,091,840).

Garces et al. (U.S. Patent # 5,450,306) in combination with Tanaka Yoshiyuki discloses claimed invention as explained in the claim 1-2, above except the utilization of the

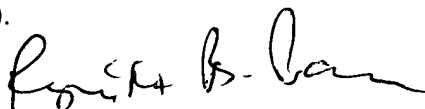
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technique for a second short-circuit element connected in parallel and drivable power semiconductor. Walker. teaches the similar technique for a second shorting element (figure 1, item 24). It would have been obvious one having an ordinary skill in the art at the time the invention made to modify Graces et al.'s converter circuit by utilizing the technique taught by Tanaka Yoshiyuki for the purpose of short-circuit protection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rajnikant B. Patel whose telephone number is 571-272-2082. The examiner can normally be reached on 6.30-5.00; m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rajnikant B Patel
Primary Examiner
Art Unit 2838
